

Wave Equation for Early Detection of Breast Cancer Growth using MATLAB Distributed Computing

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The algorithm for calculating the wave equation of growing breast cancerous cells [1, 2] is parallelized based on the MATLAB Distributed Computing technique [3]. The parallelized algorithm is analyzed by examining its performance and communication overhead. The model involves the solution of a number of mathematical modeling to calculate the growth on the early stage, the most investigate breast cancer cell line. Towards overcome the limitation to the real time solution, several domain decomposition methods will be utilized to divide the system of equation into smaller sub domain. The mathematical model is imploded for the parallel algorithm of these systems of equations. The development of parallel computation scheme is the main focus technique for speedup optimization. MATLAB Distributed Computing is emphasized as communication open source software on distributed parallel computing system and results in a performance will obtain.

KEY WORDS

Parallel computing, Breast cancer, Wave equation, Finite difference approximation, Nano scale tumor cell growth

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